Massachusetts Division of Health Care Finance and Policy
Application for All-Payer Claims Database (APCD) Data

Applications for APCD data must meet the requirements set forth in regulation **114.5 CMR 22.00: Health Care Claims Data Release** and any Administrative Bulletins promulgated under this regulation. The regulation and bulletins are available online at http://www.mass.gov/eohhs/gov/departments/hcf/regulations.html.
Information provided on pages 1-4 of this application will be posted on the internet for public comment.

A. APPLICANT INFORMATION	
Applicant Name:	Janice Singer
Title:	Director of Operations
Organization:	Massachusetts Health Quality Partners
Project Title:	Practice Pattern Variation Analysis (PPVA) Program
Date of Application:	November 20, 2012
Brief Description of Project (240 character limit)	A multi-payer analysis of practice pattern variation (that may represent overuse and/or underuse of medical services) to inform active engagement of clinicians and other stakeholders in opportunities to improve quality by reducing unexplained and costly variation in the use of services.

B. DATA REQUESTED

*** Note: The three most current years of APCD data available are being requested.**
The application of an Episode Treatment Group (ETG) Grouper to the data is also being requested as part of this request.

1. PUBLIC USE			
File	SINGLE USE* '08 – '09 – '10	REPEATED USE* '08 – '09 –'10	MULTIPLE USE* '08 – '09 – '10
Medical Claims	☐ ☐ ☐	X X X	☐ ☐ ☐
Pharmacy Claims	☐ ☐ ☐	X X X	☐ ☐ ☐
Dental Claims	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐
Membership Eligibility	☐ ☐ ☐	X X X	☐ ☐ ☐
Provider	☐ ☐ ☐	X X X	☐ ☐ ☐
Product	☐ ☐ ☐	X X X	☐ ☐ ☐

2. RESTRICTED USE			
File	SINGLE USE* '08 – '09 – '10	REPEATED USE* '08 – '09 – '10	MULTIPLE USE* '08 – '09 – '10
Medical Claims	☐ ☐ ☐	X X X	☐ ☐ ☐
Pharmacy Claims	☐ ☐ ☐	X X X	☐ ☐ ☐
Dental Claims	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐

Membership Eligibility	☐ ☐ ☐	X X X	☐ ☐ ☐
Provider	☐ ☐ ☐	X X X	☐ ☐ ☐
Product	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐

* The Division reserves the right to change proposed "use level" after review of this application.

Definitions:

- **Single Use**: Use of the data for a project or study.
- **Repeated Use**: Use of the data as an input to develop a report or product for sale to multiple clients or customers provided that it will NOT disclose APCD data. Examples include: development of a severity index tool, development of a reference tool used to inform multiple consulting engagements where no APCD data is disclosed.
- **Multiple Use**: Use of the data to develop a product or service that will be sold in the marketplace and will disclose APCD data. Examples include: a benchmark report produced by analyzing APCD data, a query tool to ease access to APDC data.

3. **Filters:** If you are requesting data elements from the Restricted Use dataset, describe any filters you are requesting to use in order to limit your request to the minimum set of records necessary to complete your project. (For example, you may only need individuals whose age is less than 21, claims for hospital services only, or only claims from small group products.)

1) A filter for PAID claims only.
2) A payer filter that includes all paid claims (self-insured and fully-insured) only from the following payers:

- Blue Cross Blue Shield of Massachusetts
- Fallon Community Health Plan
- Harvard Pilgrim Health Care
- Health New England, Inc.
- Neighborhood Health Plan
- Tufts Health Plan

4. **Restricted data elements:** If you are requesting Data Elements from the Restricted Use dataset, list each restricted data element you are requesting on the attached Data Element List and explain why you need access to EACH Restricted Use data element for your project. Limit your request to the minimum data elements necessary to complete the project and be specific as to how each element relates to your proposed model/analytic plan. Add rows to this table as needed.

Note: The restricted data elements listed are needed for determining episode assignments using length of stay or service, prescriptions filled and allowed charges to calculate costs. Masked unique member IDs are needed to link the requested APCD files and aggregate data to the same de-identified patient. Multiple provider fields are needed to ensure accuracy in the identification of providers and accurate aggregation of their de-identified patient results. Masked data elements, assuming each provider has one unique masked ID, can be used to aggregate results to a unique provider.

In addition to the restricted data elements being requested, UNMASKED provider data elements (from the public release file) are also being requested and critical for the project to enable attribution of aggregated provider results to an identified provider and its practice. Obtaining unmasked NPI#s for physician fields

where available would enable the project to accurately identify the provider and link most providers to their practices using Massachusetts Health Quality Partners' (MHQP) Massachusetts Provider Database (MPD).

The public use data elements being requested UNMASKED and the restricted use elements are listed below:

Public Use Elements being requested UNMASKED:

Data Element Name	**Data Element Description**	**Data File** (Medical, Pharmacy, Dental, Eligibility, Provider, Product)	**Justification** (reason this data element is necessary for your project)
MC026	National Service Provider ID (NPI)	Medical	The National Provider ID data elements will enable matching up as many providers to practices as possible using the MPD and its provider data elements. These data elements requested provide most of the mapping to MHQP's Massachusetts Provider Database (MPD). Additional elements requested from the restricted provider files will maximize mapping and accuracy of mapping.
PC048	Prescribing Physician NPI	Pharmacy	
PV039	National Provider ID	Provider	
PV040	National Provider2 ID	Provider	

Restricted Use Elements being requested:

Restricted Data Element Name	**Restricted Data Element Description**	**Data File** (Medical, Pharmacy, Dental, Eligibility, Provider, Product)	**Justification** (reason this data element is necessary for your project)
PV015	Provider DOB Year	Provider	Using these select critical provider data elements will ensure the highest accuracy in matching up providers to practices using the MPD and its provider data elements.
PV016	Street Address1 Name	Provider	
PV017	Street Address2 Name	Provider	
PV002	Plan Provider ID (masked)	Provider	This data element is needed for linkage to the public use data in the provider file with the same masked data element.
ME014	Member Birth Month	Eligibility	Calculate age as of analytic year end (used with member birth year) in public use file. This provides important information to providers about their patients.
ME046	Member PCP ID	Eligibility	Data element is needed to attribute and aggregate measure results to same PCP (Same as ME001). Note: many condition results in PPVA are

			aggregated/ attributed to PCPs
ME001 / ME046	Payer / Member PCP ID	Eligibility	Data element is needed to attribute and aggregate results to same PCP for many of the PPVA conditions attributed to PCPs
ME107	Carrier Specific Unique Member ID (masked)	Eligibility	Data element is needed to link the de-identified patient to the medical and pharmacy data files Data element is needed to attribute aggregated patient-level de-identified results to the appropriate provider.
MC018	Admission Date – Date, Month, Year	Medical	Needed to determine episode assignment based on date and length of stay
MC069	Discharge Date – Date, Month, Year	Medical	Needed with the admission date to determine length of stay for episode assignment
MC059	Date of Service from – Date, Month, Year	Medical	Needed to determine episode assignment based on date and length of service
MC060	Date of Service to – Date, Month, Year	Medical	Needed to determine episode assignment based on date and length of service
MC098	Allowed amount	Medical	Data element needed to best assess magnitude of individual service and episodic costs
MC137	CarrierSpecific Unique Member ID (masked)	Medical	Data element is needed to attribute aggregated patient-level de-identified results to the appropriate provider. Data element is also needed to link the de-identified patient to the member eligibility and pharmacy data files
PC032	Date Prescription Filled – Date, Month, Year	Pharmacy	Needed to determine episode assignment based on date of prescription fill
PC051	Prescribing Physician Street Address	Pharmacy	Needed to support accurate identification of prescribing physician
PC052	Prescribing Physician Street Address2	Pharmacy	Needed to support accurate identification of prescribing physician
PC068	Allowed Amount	Pharmacy	Data element needed to best assess magnitude of individual service and episodic prescription costs
PC107	CarrierSpecific Unique Member ID (masked)	Pharmacy	Data element is needed to attribute aggregated patient-level de-identified results to the appropriate provider. Data element is also needed to link

			the de-identified patient to the member eligibility and medical data files

*** Other: Application of an ETG Grouper to the APCD data is being requested. A table below is provided for the data elements requested.**

Variable	Description
Episode number	A value that uniquely identifies the episode
ETG number	The ETG assigned to the episode. Represents the ETG base class (6), complication code (1), Comorbidity code (1), and treatment code (1)
Age	The patients' age as of start date of the episode
Sex	Patient's gender
Start date (date from)	The first date of service in the episode
End Date (date thru)	The last date of service in the episode
Episode type	A number that indicates whether the episode is complete or incomplete use ETG's clean periods
Starting diagnosis (ICD9 begin)	The diagnosis code from the anchor record that started the episode
Shift diagnosis (ICD9 change)	The diagnosis code that shifted the episode's ETG assignment
Shift Procedure (CPT4 change)	The latest cpt-4 code that caused the ETG number for the episode to shift to a different ETG.
Complication Indicator	0 or 1 (yes or no)
Co-morbidity Indicator	0 or 1 (yes or no)
Treatment Indicator	0 or 1 (yes or no)
Severity score	Value
Severity level	Value
Severity error status	Status or value

C. PURPOSE AND INTENDED USE

1. Please describe the purpose of your project and how you will use the APCD.

Studies about geographic variation in clinician practice patterns (e.g., Wennberg and others) have clearly demonstrated wide, unexplained variation in medical and surgical practices that leads to over and under utilization of services, higher resource use, costs and lower quality. An often cited issue from the perspective of the provider community is that while identifying variation, these results have not pointed to key drivers of the variation that clinicians within a practice setting could take action around to change or improve.

Practice Pattern Variation Analysis (PPVA), an approach developed by Howard Beckman and colleagues, has been shown in several markets to effectively move to this next step, engaging clinical attention and improvement efforts within medical groups and practices. PPVA provides

an analytic approach to identifying variation, key drivers and insights that can lead to quality improvement and potential cost reductions across many specialties, procedures and conditions.

MHQP is receiving support from six of Massachusetts leading health plans (Blue Cross Blue Shield of Massachusetts, Harvard Pilgrim Health Care, Fallon Community Health Plan, Health New England, Neighborhood Health Plan, and Tufts Associated Health Plan) to implement a multi-payer approach to PPVA that will result in analysis and reports for providers in Massachusetts. These six health plans represent a majority (estimated 70%+) of the total medical claims in Massachusetts and therefore MHQP's PPVA results would be broadly representative and potentially generalizable.

The series of reports and analyses generated from the PPVA project will facilitate discussion with front line clinicians around opportunities to potentially reduce variation, discussion of community standards for clinical areas with significant unexplained variation in practice, and peer to peer learning sessions to share best practices. The analysis will also promote dialog between providers and payers in collaborative efforts to reduce unexplainable variation.

2. Please explain why completing your project is in the public interest.

In Massachusetts we are experiencing unparalleled changes in our health care system as we strive to transform our health care system to one where we have better care and better health at lower cost. An important aspect of improving our care system is to reduce unnecessary care and one way to do that is to better understand unexplained variations in care. MHQP's PPVA program will provide insights about care variation that can lead to quality improvement and cost reductions across many specialties, procedures and conditions. In the current environment of increasing cost containment concerns, it is in the public interest that physician practices have a mechanism to understand and act upon these key drivers of unexplained variation.

This project will support the overall health care community which is faced with increasing pressures to create sustainable ways to contain costs while maintaining or improving quality and access to the public. The PPVA program presents opportunities to identify unexplained practice pattern variation and to begin conversations about this variation with providers at a variety of medical practices. These conversations can in turn lead to changes in behavior by engagement of clinicians in quality improvement initiatives, development of evidence-based community standards, specialty society discussions and other activities that can impact the cost and quality of care provided to patients.

The proposed analysis has gained broad multi-stakeholder support from the health care community including: six major commercial payers (Blue Cross Blue Shield of Massachusetts, Harvard Pilgrim Health Care, Fallon Community Health Plan, Health New England, Neighborhood Health Plan, and Tufts Associated Health Plan), MassHealth (in anticipation for future inclusion in such analysis), the Massachusetts Medical Society, the Massachusetts Hospital Association and the MHQP Physician Council (with representation from provider network organizations representing owned and independent practices).

Representatives from these organizations, since May 2012, have convened a PPVA Collaborative Multi-Stakeholder Group (the Stakeholder Group) to provide oversight and support in the planning and implementation of a statewide evidence-based practice pattern variation analysis, reporting and improvement program to deepen clinicians' and other stake holders' understanding of practice variation that leads to overuse and underuse of medical services and to engage their involvement in developing best practice approaches that will contribute to improving quality while reducing unexplained and costly variation in the use of services.

3. **Attach** a brief (1-2 pages) description of your research methodology. (This description will not be posted on the internet.)

   See Attachment – PPVA Research Methodology

4. Has your project received approval from your organization's Institutional Review Board (IRB)?
   - ☐ Yes, and a copy of the approval letter is attached to this application
   - ☐ No, the IRB will review the project on _____
   - **X** No, this project is not subject to IRB review
   - **X** No, my organization does not have an IRB

   Respectfully, we request that IRB approval not be required for this application for data. IRB review and approval is not being sought after for the following reasons:

   - The data being used is patient de-identified and results will not be reported at the patient-level.
   - Reporting of de-identified patient data will be at the provider and practice level with no fewer than 5 episodes of care.
   - There will be no contact with human subjects/patients for this project.
   - Additionally, this data is being gathered for quality improvement purposes, being shared with practices and health plans that are representative of the data.

D. APPLICANT QUALIFICATIONS

1. Describe your qualifications to perform the research described or accomplish the intended use.

The project includes a multi-disciplinary team from MHQP supported by Focused Medical Analytics (FMA) as a contractor.

Janice Singer, Director of Operations at MHQP, the applicant and lead for the PPVA project has over 25 years of experience in health care program development, management and research. Ms. Singer received a Masters in Public Health from Harvard University and a Masters in Sociology from Boston College. Her undergraduate degree is from the University of Maryland. Ms. Singer will be providing oversight to the MHQP analytics team and working with the FMA data warehouse and analytics team to ensure data quality and integrity of the practice pattern variation results, analysis of the information and development of stakeholder and individual provider reports.

MHQP has been utilizing health claims data for quality analysis for over 15 years on various projects as part of its own ongoing work, and in oversight, partnership and collaboration with other agents and parties. MHQP has worked with claims data from the Division of Health Care Finance and Policy, Massachusetts Quality and Cost Council, MassHealth, Medicare and five of the leading Massachusetts health plans, for the purpose of quality measurement and attribution of results to providers at the physician practice and medical group level.

Current and ongoing initiatives focused on provider level analytics and reporting include:

- Aggregation of ambulatory care clinical quality data from the five largest health plans in Massachusetts and reporting of comparative performance results at the medical group level both privately to provider groups and health plans, and publicly on its website.
- Statewide Patient Experience Survey analysis and reporting of results of commercial health plan patients at the practice and medical group level.
- Statewide Patient Experience Survey and Clinical Quality Reporting (a MassHealth pilot) - Aggregation and reporting of both PES and clinical quality data at the practice and medical group level.

MHQP will be working with Focused Medical Analytics (FMA) as its contract vendor. Howard Beckman, MD, Chief Medical Officer of FMA is the leading expert and pioneer in PPVA. FMA has been in operation since 2005, was awarded a patent for its process for identifying clinical variation in 2010. FMA has provided services to clients from large national commercial insurers to smaller publicly funded plans. FMA's core team has over 50 years experience in health care analytics.

2. Describe the software you plan to use to analyze the data and the experience that the applicant's team members have in using that software.

Focused Medical Analytics (FMA) will use its patented and proprietary Medical Practice Pattern Tool™ (MPPT™) to analyze data and identify areas of high clinical variation. FMA team members using the software developed the software and have been using it for over seven years.

MHQP will use the Microsoft suite of products, especially MS Access and the SAS statistical package to analyze the data received from FMA. MHQP's IS team has several decades of experience using Microsoft Access for production of applications and analytics and members of the MHQP IS team (e.g. MHQP's Statistical Programmer and Director of IS and Data Analytics) have over a decade of experience using SAS to produce comparative and statistical analyses.

3. Attach résumés or curriculum vitae of the applicant/principal investigator, key contributors, and of all individuals who will have access to the data. (These attachments will not be posted on the internet.)

   Attachments are included for the following individuals who will have direct access to the non-aggregated, record level data sets.

MHQP :	FMA:
• Janice Singer	• Howard Beckman
• Marguerite Dresser	• Barbara Landschoot
• Char Kasprzak	• Greg Partridge
• Jason Leistikow	• John Taddeo

E. DATA LINKAGE AND FURTHER DATA ABSTRACTION

1. Does your project require linking the APCD to another dataset?
   YES **X** NO ☐

   The provider/physician data from the APCD will be linked to Massachusetts Health Quality Partners', Massachusetts Provider Database (MPD), to enable attribution of aggregated patient results to a provider and their respective practice. No patient (record level) data will be linked to any other data base.

   MHQP's Massachusetts Provider Database (MPD) represents the structure of ambulatory care in Massachusetts. It is a unique data source that allows for mapping of primary care providers and specialists to the location(s) and group(s) in which they actually practice. MHQP has the most reliable and up to date mapping available and the MPD is a resource that enables MHQP to offer value to diverse customers (i.e., government groups, health plans, medical groups and clinicians, researchers) for multiple purposes (i.e., grouping physicians for: clinical quality reporting purposes, patient experience reporting purposes, claims analysis, etc.).

2. If yes, will the APCD be linked to other patient level data or with aggregate data (e.g. Census data)?
   Patient Level Data ☐ Aggregate Data **X – Provider data**

3. If yes, please identify all linkages proposed and explain the reasons(s) that the linkage is necessary to accomplish the purpose of the project.

Data will be linked to an aggregate level at the provider (physician), organization (practice or medical group) or network level. Linkages will occur among records with the primary critical data element being the NPI# of the servicing provider, prescribing provider or service organization. The linkage is needed to assign aggregated patient results to their respective providers. For some measures, the aggregated results and linkage at the organization level (practice or medical group) will be more appropriate given the nature of the measure or volume limitations that would make reporting at a provider level less reliable. Secondary data elements (e.g., name and address) are also very important and will further support and ensure the accuracy of the provider identification.

4. If yes, specify the specific steps you will take to prevent the identification of individual patients in the linked dataset.

The dataset being requested will not include direct personal patient identifiers. The results will not be reported at the individual patient-level. Reports disseminated beyond our research team of aggregated data will be provider-level results with denominators (practice volume) aggregated with no fewer than 5 episodes of care. The reports will be used by the internal Stakeholder Group (and their organizations' practices) for discussion and quality improvement purposes. NO reports will be released to the public.

F. RE-RELEASE OF DATA

Applicants must obtain prior approval from the Division to publish reports that use APCD files. Applicants must provide the Division with a copy of any report at least 30 days prior to release to outside parties, including peer review and prepublication analysis by anyone other than the individuals named in this Application. The Division will review the report to ensure that the publication will not permit identification of an individual patient or permit identification of a specific payment by individual payer. The Division may prohibit release of reports that may permit identification of individual patients or specific payment by individual payer.

1. Describe your plans to publish or otherwise disclose any APCD data elements, or any data derived or extracted from such data, in any paper, report, website, statistical tabulation, or similar document.

Plans to publish or disclose any APCD data elements or analysis in any document form will be limited in its availability to the payers and providers identified in the data. Reports generated beyond this immediate audience (e.g., peer providers, health plans, other stakeholders) will receive aggregated-level, and blinded results.

2. Will the results of your analysis be publicly available to any interested party? Will you charge a fee for the reports or analysis? Please describe how an interested party will obtain your analysis and, if applicable, the amount of the fee.

Especially as this is a first-time pilot project focused on quality improvement, analysis will not be available publicly to any interested party. The data will be used to generate reports for review and use by the payers and providers identified in the data. Reports generated beyond this immediate audience (e.g., peer providers, health plans, other stakeholders) will receive aggregated-level, blinded results. Oversight: Support and commitment to the oversight and engagement in the project, process and results has resulted in the formation of the PPVA Stakeholder Group which includes representation from provider and health plan organizations represented in the data. The PPVA Stakeholder Group will also include clinical specialty, employer and consumer representation as the program and engagement process progresses.

3. Will you use the data for consulting purposes?
   YES X NO ☐

   Yes, but only with the health plans and providers identified in the study.

4. Will you be selling standard report products using the data?
   YES ☐ NO X

   No, the scope of the project will include providing reports to providers and health plans identified in the study. Any additional requests for analysis or data specific to these audiences, however, will be provided for a fee to cover costs.

5. Will you be selling a software product using the data?
   YES ☐ NO **X**

6. If you have answered "yes" to questions 3, 4 or 5, please (i) describe the types of products, services or studies; (ii) estimate the number and types of clients for which the data will be used and (iii) describe any rerelease of data by your clients.

   The data will be used for consulting purpose, but only with the plans and providers identified in the study, and other organizations identified in the Stakeholder group. Health plans and providers (through their practices or medical groups) will receive reports containing their own data. Six plans and relevant providers (practices or medical groups) will receive reports.

   Rerelease of data beyond this immediate audience will represent aggregated-level, and blinded results.

   The PPVA Stakeholders Group formed to support and represent key constituents in this program will provide oversight in this process.

G. USE OF AGENTS OR CONTRACTORS

Third-Party Vendors. Provide the following information for all agents and contractors who will work with the APCD data.

Company Name:	Focused Medical Analytics, LLC (FMA)
Contact Person:	John Taddeo
Title:	Chief Executive Officer
Address:	125 Sully's Trail, Suite 8 Pittsford, NY 14534
Telephone Number:	585-381-5480
Fax Number:	585-381-5481
E-mail Address:	jtaddeo@fma-us.com
Organization Website:	www.fma-us.com

Company Name:	Focused Medical Analytics, LLC (FMA)
Contact Person:	Gregory Partridge

Title:	President & Director of Data Services
Address:	125 Sully's Trail, Suite 8 Pittsford, NY 14534
Telephone Number:	585-381-5480
Fax Number:	585-381-5481
E-mail Address:	gpartridge@fma-us.com
Organization Website:	www.fma-us.com

Company Name:	Focused Medical Analytics, LLC (FMA)
Contact Person:	Howard Beckman, MD
Title:	Chief Medical Officer
Address:	125 Sully's Trail, Suite 8 Pittsford, NY 14534
Telephone Number:	585-381-5480
Fax Number:	585-381-5481
E-mail Address:	hbeckman@fma-us.com
Organization Website:	www.fma-us.com

Company Name:	Focused Medical Analytics, LLC (FMA)
Contact Person:	Barbara Landschoot
Title:	Data Analyst
Address:	125 Sully's Trail, Suite 8 Pittsford, NY 14534
Telephone Number:	585-381-5480
Fax Number:	585-381-5481
E-mail Address:	Blandschoot@fma-us.com
Organization Website:	www.fma-us.com

1. Will the agent/contractor have access to the data at a location other than your location or in an off-site server and/or database?
   YES X NO ☐

All study data at the record level will be located at one data warehouse location. This location will be the secure server operated by the contractor, Focused Medical Analytics.

2. Describe the tasks and products assigned to this agent or contractor for this project.

FMA will utilize its patented analytic process to identify areas of high clinical variation. Specifically, FMA will be looking for significant differences in the practice patterns of different providers and how they treat similar conditions. The goal in identifying, understanding and ultimately reducing clinical variation is to reduce the use of unnecessary medical services as defined by widely accepted treatment guidelines. Staff responsibilities: • John Taddeo– Mr. Taddeo will be FMA's project leader and lead administrator. • Gregory Partridge – Mr. Partridge will be the lead on all data related activities.

- Howard Beckman, MD – Dr. Beckman will be the clinical lead on this project.
- Barbara Landschoott – Ms. Landschoot will be providing data analysis support.

3. Describe the qualifications of this agent or contractor to perform such tasks or deliver such products.

FMA has specialized in identifying, understanding and addressing clinical variation since its inception in 2005. The three FMA staff members responsible for performing the work for this project (Partridge, Beckman, Landschoot) have over 60 years combined experience analyzing and understanding health care data. FMA has worked with small regional clients as well as large national companies. FMA received a patent for its unique process in 2010.

4. Describe your oversight and monitoring of the activity and actions of this agent or subcontractor.

Governance:

- Janice Singer, Lead Project Director will be responsible for managing the terms of the Project Contract between MHQP and FMA.
- John Taddeo, FMA Chief Executive Officer will be responsible for FMA project management.
- The Project Team, which includes the project leads from MHQP and FMA as well as staff from both FMA and MHQP, will meet bi-weekly to track and monitor progress and work on the project.